



# EKF



## TECHNICAL MANUAL

### Contactors KME

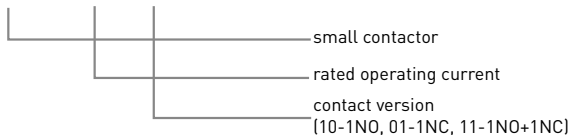
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## 1 DESCRIPTION

The contactors KME are switching devices used for squirrel cage motors: starting, switching off without pre-stopping in 50/60 Hz AC electrical circuits with voltage up to 690V (utilization category AC-3), and for non-inductive or low-inductive loads, resistance furnaces (utilization category AC-1).

KME XX XX



## 2 TECHNICAL DATA

The contactors KME shall be mounted onto 35 mm DIN rail. They comply with the requirements of IEC 60947-4-1:2018.

Connection options with copper and aluminum wires are supported. Do not connect copper and aluminum wires to one terminal concurrently.

The degree of protection is IP20 according to IEC 60529:2013.

The parameters of the contactor main circuit for loads (categories AC-3 and AC-1), cross-section of wires for control circuit, technical characteristics of auxiliary circuit are given in Tables 1-3.

Accessories for the contactors KME are given in Tables 1-3.

The contactors KME are designed for one frontal auxiliary contact block PKE and auxiliary contact block KB to be installed concurrently in order to increase in a number of auxiliary contacts.

The three-pole thermal overload relay RTE shall be installed in addition to the contactors KME in order to protect electric motors against unacceptable overloads, overcurrent and phase failure.

The frontal pneumatic time delay attachment PVE shall be used for on/off delay of auxiliary contactors from 0,1 to 180 s.

Accessories for contactors shall be ordered separately.

Table 1 - Main technical data of the contactors KME-0910, KME-0901, KME-1210, KME-1201, KME-1810, KME-1801

Parameters		KME-0910, KME-0901	KME-1210, KME-1201	KME-1810, KME-1801	
Rated power, kW	<+40C, 230V	AC-3	2,2	3	4
	<+40C, 400V		4	5,5	7,5
	<+40C, 660V		5,5	7,5	10
Rated operating current, A	<+40C, 400V	AC-3	9	12	18
		AC-1	25	25	32
Number of poles		3P			
Available auxiliary contacts		1NO, 1 NC			
Maximum short-time load [t<1c], A		162	216	324	
Rated AC operating voltage Ue, V		230, 400, 660			
Rated impulse voltage Uimp, kV		6			
Rated insulation voltage Ui, V		690			
Conventional short-circuit current Inc, A		1000		3000	
Dissipation power at Ie, W/pole	AC-3	0,2	0,36	0,8	
	AC-1	1,56	1,56	2,5	
Rated voltage of control coil Uc, V		230, 400			
Control voltage ranges	tripping	[0,8 - 1,1]*Uc			
	release	[0,3 - 0,6]*Uc			
Power consumption of control coil at Uc, VA	tripping cos f = 0,75	60	60	60	
	holding cos f = 0,3	7	7	7	
Tripping time of control coil, ms	closing	12-22	12-22	12-22	
	opening	4-19	4-19	4-19	
Power dissipation of control coil, W		3	3	3	
Electrical endurance of control coil, mln. cycles	AC-3	1,65	1,65	1,65	
	AC-1	1,43	1,43	1,43	
Mechanical endurance		mln. cycles			
Overall dimensions, mm	width	45	45	45	
	height	74	74	74	
	depth	80	80	80	
Connection of power circuit, mm	flexible cable	1-4	1-4	1,5-6	
	rigid cable	1,5-4	1,5-4	2,5-6	
	tightening torque, Nm	1,5	1,5	1,5	
Connection of control circuit, mm	flexible cable	1-4			
	rigid cable	1-4			
	tightening torque, Nm	1,5			
Main accessories for contactors	auxiliary contact block	PKE-02, PKE-04, PKE-11, PKE-20, PKE-22, PKE-40			
	pneumatic time delay attachment	PVE-11, PVE-12, PVE-13, PVE-21, PVE-22, PVE-23			
	interlocking devices	Mechanical interlocking up to 32A			
	thermal overload relay	RTE-1305 RTE-1306 RTE-1307 RTE-1308, RTE-1310 RTE-1312 RTE-1314 RTE-1316 RTE-1321			

Table 2 - Main technical data of the contactors KME-2510, KME-2501, KME-3210, KME-3201

Parameters		KME-2510, KME-2501	KME-3210, KME-3201	
Rated power, kW	<+40C, 230V	AC-3	5,5	7,5
	<+40C, 400V		11	15
	<+40C, 660V		15	18,5
Rated operating current, A	<+40C, 400V	AC-3	25	32
		AC-1	40	50
Number of poles		3P		
Available auxiliary contacts		1NO, 1 NC		
Maximum short-time load (t<1c), A		450	576	
Rated AC operating voltage Ue, V		230, 400, 660		
Rated impulse voltage Uimp, kV		8		
Rated insulation voltage Ui, V		690		
Conventional short-circuit current Inc, A		3000		
Dissipation power at Ie, W/pole	AC-3	1,25	2	
	AC-1	3,2	5	
Rated voltage of control coil Uc, V		230, 400		
Control voltage ranges	tripping	[0,8 - 1,1]*Uc		
	release	[0,3 - 0,6]*Uc		
Power consumption of control coil at Uc, VA	tripping cos f = 0,75	90	90	
	holding cos f = 0,3	7,5	7,5	
Tripping time of control coil, ms	closing	15-24	15-24	
	opening	5-19	5-19	
Power dissipation of control coil, W		3,5	3,5	
Electrical endurance of control coil, mln. cycles	AC-3	1,21	1,10	
	AC-1	1,43	1,43	
Mechanical endurance	mln. cycles	12	10	
	width	56	56	
	height	84	84	
Overall dimensions, mm	depth	93	98	
	flexible cable	1,5-6	2,5-6	
	rigid cable	2,5-6	4-10	
Connection of power circuit, mm	tightening torque, Nm	2,5	5	
	flexible cable	1-4		
	rigid cable	1-4		
Connection of control circuit, mm	tightening torque, Nm	1,5		
	auxiliary contact block	PKE-02, PKE-04, PKE-11, PKE-20, PKE-22, PKE-40		
	pneumatic time delay attachment	PVE-11, PVE-12, PVE-13, PVE-21, PVE-22, PVE-23		
Main accessories for contactors	interlocking devices	mechanical interlocking up to 32A		
	thermal overload relay	RTE-2322 RTE-2353 RTE-2355		

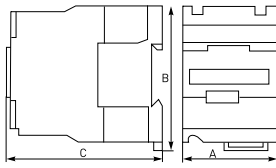
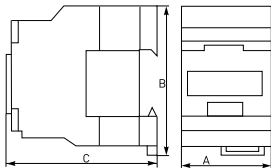
Table 3 - Main technical data of the contactors KME-4011, KME-5011, KME-6511, KME-8011, KME-9511

Parameters			KME-4011	KME-5011	KME-6511	KME-8011	KME-9511
Rated power, kW	<+40C, 230V	AC-3	11	15	18,5	22	25
	<+40C, 400V		18,5	22	30	37	45
	<+40C, 660V		30	33	37	45	45
Rated operating current, A	<+40C, 400V	AC-3	40	50	65	80	95
		AC-1	60	80	80	125	125
Number of poles			3P				
Available auxiliary contacts			1NO + 1 NC				
Maximum short-time load (t<+1), A			720	900	1170	1440	1710
Rated AC operating voltage Ue, V			230, 400, 660				
Rated impulse voltage Uimp, kV			8				
Rated insulation voltage Ui, V			690				
Conventional short-circuit current Inc, A			3000				5000
Dissipation power at Ie, W/pole	AC-3	2,4	3,7	4,2	5,1	7,2	
	AC-1	5,4	6	6,4	12,5	12,5	
Rated voltage of control coil Uc, V			230, 400				
Control voltage ranges	tripping	[0,8 - 1,1]*Uc					
	release	[0,3 - 0,6]*Uc					
Power consumption of control coil at Uc, VA	tripping cos f = 0,75	200	200	200	200	200	
	holding cos f = 0,3	20	20	20	20	20	
Tripping time of control coil, ms	closing	20-26	20-26	20-26	20-26	20-26	
	opening	8-12	8-12	8-12	6-20	6-20	
Power dissipation of control coil, W			10	10	10	10	10
Electrical endurance of control coil, mln. cycles	AC-3	1,10	1,10	1,10	0,99	0,77	
	AC-1	1,43	1,43	1,43	1,10	0,77	
Mechanical endurance	mln. cycles	10	10	10	5	4	
	width	74	74	74	84	84	
	height	127	127	127	127	127	
Overall dimensions, mm	depth	114	114	114	125	125	
	flexible cable	6-16	10-25	10-25	16-35	16-35	
	rigid cable	10-25	16-35	16-35	25-50	25-50	
Connection of power circuit, mm	tightening torque, Nm	5	5	5	9	9	
	flexible cable	1-4					
	rigid cable	1-4					
Connection of control circuit, mm	tightening torque, Nm	1,5					
	auxiliary contact block	PKE-02, PKE-04, PKE-11, PKE-20, PKE-22, PKE-40					
	pneumatic time delay attachment	PVE-11, PVE-12, PVE-13, PVE-21, PVE-22, PVE-23					
Main accessories for contactors	interlocking devices	mechanical interlocking from 40A					
	thermal overload relay	RTE-3353 RTE-3355 RTE-3357 RTE-3359 RTE-3361 RTE-3361 RTE-3363 RTE-3365					

### 3 OVERALL DIMENSIONS

KME-0910; KME-1210; KME-1810;  
KME-0901; KME-1201; KME-1801

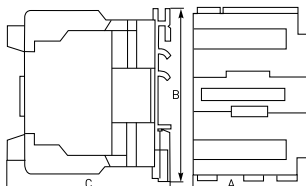
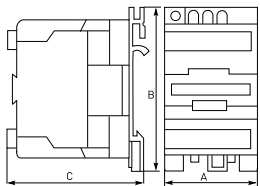
KME-2510; KME-3210;  
KME-2501; KME-3201



Overall dimensions, mm	KME-0910, KME-0901	KME-1210, KME-1201	KME-1810, KME-1801	KME-2510, KME-2501	KME-3210, KME-3201
A	45	45	45	56	56
B	74	74	74	84	84
C	80	80	80	93	98

KME-4011; KME-5011; KME-6511

KME-8011; KME-9511



Overall dimensions, mm	KME-4011	KME-5011	KME-6511	KME-8011	KME-9511
A	74	74	74	84	84
B	127	127	127	127	127
C	114	114	114	125	125

### 4 WIRING DIAGRAMS

KME-0910, KME-1210, KME-1810 KME-2510, KME-3210	KME-0901, KME-1201, KME-1801 KME-2501, KME-3201	KME-4011, KME-5011, KME-6511, KME-8011, KME-9511

## 5 SAFETY REQUIREMENTS

The contactors shall be operated in accordance with national safety rules for operation of electrical installations.

The contactors can only be operated with a series-connected fuse or automatic circuit breaker of suitable rated current.

In terms of human protection against electric shock, contactors comply with Class 0 according to IEC 61140:2016.

## 6 OPERATION CONDITIONS

The rated operating conditions for contactors are:

- ambient temperature is  $-25^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  (lower limit temperature  $-40^{\circ}\text{C}$ );
- altitude above sea level without degraded parameters, max. 3000 m;
- vibration loads with frequency of up to 100 Hz are permissible.
- operating position: mounted on a vertical plane with the coil leads upwards using screws. The deviation up to  $30^{\circ}$  from vertical position in the vertical plane is permissible.

## 7 TRANSPORTATION AND STORAGE

The contactors can be transported by any means of enclosed transport that ensures protection of packed products against mechanical and atmospheric impacts. The contactors shall be stored indoors in the original package at the ambient temperature from  $-45^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  and relative humidity of 98% at  $+25^{\circ}\text{C}$ .

## 8 DISPOSAL

Life-expired and failed products shall be disposed of in compliance with the national and local laws and regulations in force.

To dispose of the product, send it to an authorized company for recycling in compliance with the national and local laws and regulations in force.

## 9 DELIVERY SCOPE

The contactors KME are supplied in the individual package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

## 10 MANUFACTURER'S WARRANTY

**Warranty period:** 7 years from the date of sale of the product specified in the sales receipt.

**Shelf life:** 7 years from from the date of manufacture specified on the product package or housing.

**Service life:** 10 years.

**Manufacturer:** For information, refer to the product package.

**Importer and EKF trademark service representative:**

EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

**Importer and EKF trademark service representative on the territory of the**

**Russian Federation:** 000 «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788–88–15.

**Importer and EKF trademark service representative on the territory of the**

**Republic of Kazakhstan:** TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

## 11 CERTIFICATE OF ACCEPTANCE

The contactor KME EKF has been approved for operation.

**Date of manufacture:**

For information, refer to the product package.

Stamp of technical control



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